

Appl. No. 10/814,092
Amtd. dated December 21, 2005

Reply to Office Action of September 29, 2005
Attorney Docket 17380

AMENDMENTS TO THE CLAIMS

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This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) In agricultural equipment, construction machinery, machine tool, or appliances, including an over running clutch having an input connected in rotatably driven relation to a source of rotatable power, and an output connected in rotatably driven relation to rotatable elements of the a picking unit, the input and output being jointly rotatable along a path of rotational movement when the input and output are engaged such that the power source will rotate the rotatable elements at a desired rotational speed, and the input and output being rotatable one relative to the other along the path of rotational movement in an over running condition, and the improvement comprising;

a sensor operable in a first state when a predetermined magnetic field is absent, and operable in a second state when the predetermined magnetic field is present;

a magnetic actuator mounted near a first of the input or the output and operable for emitting the predetermined magnetic field; and

a shield disposed on a second of the input or the output in a position for shielding the sensor from the actuator when the input and the output are jointly rotating in the normal condition, and such that when the input and the output are in the overrunning condition the shield will be at least intermittently positioned to allow the sensor to be sufficiently exposed to the magnetic field to change the state of the sensor.

2. (Currently Amended) In a vertical cotton harvester drum, of the type having a rotor shaft keyed to and extending up through the an internal slippable hub portion of a slip clutch, and an input drive mounted to the an external drive housing portion of a slip clutch; the improvement comprising: a non-contact system for instantaneously detecting when the clutch slips or overruns, which system comprises a fixed magnetic actuator and at least one reed switch sensor and shield assembly located at the clutch and changes states at the instant the clutch slips, the at least one reed switch sensor is fixed upon an appendage extending

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from the external drive housing portion, the actuator is opposite at least one reed switch sensor which actuator transmits a magnetic field there-between, the at least one reed switch sensor and the shield assembly extending radially from the internal slippable hub portion so as to block the magnetic field between the at least one reed switch sensor and the actuator until the clutch slips, the shield assembly having a series of spaced apart openings, and the shield assembly is disposed such that as the clutch faults, the shield assembly revolves to a position exposing the actuator and the at least one reed switch sensor, face-to-face through one or more of a series of openings, thereby changing the state of the switch instantly, and allowing clutch slippage to be thereby detected without the need for sensing speed differential between other shafts nor comparing or averaging adjacent rotor shaft assemblies.

3. (Cancelled)